The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method for reducing image data, wherein the image comprises a plurality of pixels, the method comprising:

determining a first set of pixels to be coalesced with a second set of pixels, the first and second sets being adjacent to one another and being oriented in a first direction;

determining a third set of pixels to be coalesced with a fourth set of pixels, the third and fourth sets being adjacent to one another and being oriented in a second direction;

coalescing the first and second sets of pixels; and

coalescing the third and fourth sets of pixels.

2. The method of Claim 1, wherein the first and second sets of pixels comprise rows of pixels, and the third and fourth sets of pixels comprise columns of pixels.

3. The method of Claim 1, wherein each of the pixels comprises a color and the method further comprises categorizing the colors of the pixels in the image as contone colors and linework colors.

4. The method of Claim 3, wherein pixels categorized as linework are collapsible with any adjacent pixel.

5. The method of Claim 4, wherein categorizing colors comprises:

calculating the number of pixels in the image that are the same color;

determining if a first pixel color is significantly more common than other pixel colors in the image; and

designating pixels of said first pixel color as linework in the image.

6. The method of Claim 4, wherein categorizing colors comprises:

determining a regular pattern of pixels from the image;

locating pixels of a first color that do not conform to said regular pattern; and

designating said pixels of said first pixel color as linework in the image.

7. The method of Claim 6, wherein determining a regular pattern comprises:

calculating color transitions along said first group;

calculating color transitions along said third group;

determining pattern boundaries of contone colored pixels based on high transition counts as indicating pattern boundaries; and

determining a regular pattern in the image based on said pattern boundaries.

8. The method of Claim 4, wherein categorizing colors comprises:

calculating the number of pixels of each pixel color in the image;

determining if at least one first pixel color is significantly more common than other pixel colors in the image;

determining a regular pattern of pixels from the image; and

locating pixels of at least one second color that do not conform to said regular pattern.

9. The method of Claim 8, further comprising:

determining that there is more of said at least one first pixel color than of said at least one second pixel color; and

designating said at least one first pixel color as linework in the image.

10. The method of Claim 8, further comprising:

determining that there is less of said at least one first pixel color than of said at least one second pixel color; and

designating said at least one second pixel color as linework in the image.

11. The method of Claim 9, further comprising designating all pixel colors at both said at least one first pixel color and said at least one second pixel color as linework in the image.

12. The method of Claim 8, further comprising designating either said at least one first pixel color or said at least one second pixel color as linework in the image based on predetermined preference.

13.   The method of Claim 8, wherein determining a regular pattern comprises:

calculating color transitions in said first group;

calculating color transitions in said third group;

determining pattern boundaries of contone colored pixels based on high transition counts as indicating pattern boundaries; and

determining a regular pattern in the image based on said pattern boundaries.

14.   The method of Claim 1, wherein said image is an upsampled image.

15.   A computing apparatus having a processor and a memory having computer executable instructions for performing the method of any of Claims 1-15.

16.   A computer readable medium having computer executable instructions for performing the method of any of Claims 1-15.

17.   A method for reducing the storage required for an image, wherein the image comprises a first plurality of pixels with contone colors, and a second plurality of linework pixels with at least one linework color, the method comprising:

determining which pixels in a first row of pixels in the image may be coalesced with a second row of pixels in the image, wherein any continuous tone pixels along said first row may be coalesced with an adjacent continuous tone pixel of the same color in said second row and an adjacent linework pixel of any color in said second row;

determining which pixels along a first column of pixels in the image may be coalesced with a second column of pixels in the image, wherein any continuous tone pixels along said first column may be coalesced with an adjacent continuous tone pixel of the same color in said second column and an adjacent linework pixel of any color in said second column;

coalescing the pixels along said first row with the pixels along said second row; and

coalescing the pixels along said first column with the pixels along said second column.

18.   A computing apparatus having a processor and a memory having computer executable instructions for performing the method of Claim 17.

19.   A computer readable medium having computer executable instructions for performing the method of Claim 17.

20.   A method for reducing the storage required for an image, wherein the image comprises a plurality of pixels and each pixel comprises a color, the method comprising:

determining pixels of the image in a first row to be coalesced with pixels along an adjacent row;

determining pixels in a first column to be coalesced with pixels along an adjacent column;

coalescing the pixels in said first row with the pixels in said adjacent row; and

coalescing the pixels in said first column with the pixels along said adjacent column.

21.   A computing apparatus having a processor and a memory having computer executable instructions for performing the method of Claim 20.

22.   A computer readable medium having computer executable instructions for performing the method of Claim 20.